



News and views from Fire & Security Consultancy Limited

New H&S Guidelines

even the Millennium Falcon gets caught out!

Five event companies have been prosecuted and fined in the previous year, and one of the most high profile was the £1.6 million fine meted out to Foodles Production when Harrison Ford broke his leg on the Star Wars set.

The new guidelines apply to health and safety offences committed by individuals or companies including corporate manslaughter.

The devil is in the detail, they can be downloaded at sentencingcouncil.org.uk and should be required reading for company secretaries, health and safety managers and directors. In all cases fines are potentially unlimited but prison sentences are limited to 2 years (although there is a potential whole life tariff for manslaughter by gross negligence).

The new guidelines set out tables for calculating the sentence based on company turnover (or individual's ability to pay), actual or potential for harm including how many people were or could have been affected and the degree of culpability. This produces a 'start point' within a suggested range. The fine can then be mitigated by cooperation with the authorities and/or an

early guilty plea. This is perfectly sensible and reasonable in concept but there are some very clear issues for the events and venues business.

A 'large' company is deemed to be one with a turnover of more than £50 million for whom the starting point for a medium harm and medium culpability incident is £600,000 but ranges up to £10 million for the most serious (non-fatal) incident. Where it involves a charge of corporate manslaughter the start point for a low culpability incident is £500,000 ranging up to £20 million for the most serious offence. The start points are scaled down for smaller companies but the point is that the fines for larger companies are many multiples of what they would have been before.

The next issue is the potential for harm and the potential numbers of people involved i.e. there does not have to have been an incident or any injury. Here the events industry is very

vulnerable. The HSE has already stated that it regards the whole industry as 'high risk' and has issues with crowded construction areas. A moving forklift quite clearly has a very high potential for harm. A worker standing on a live edge at 3 metres could fall and be killed or suffer life changing injuries. Fire hazards would be classed as potentially very harmful to many workers or occupants. Most of the industry's activities are likely to be in the highest harm category. For example, if a worker were injured by a moving forklift and the offending company had a turnover of more than £50 million, assuming a 'medium' level of culpability (which means a lapse in what was otherwise a good set up) the start point for the fine would be £1.3 million but could be up to £3.25 million.

We have got to the point where in business terms the type of financial loss that would be associated with the total loss of an event or the loss of a venue for an extended period could now result from a lapse in an otherwise sound health and safety management system.

For more information contact **Simon Garrett, X-Venture Global Risk Solutions.**

Southwark Council fined £570,000 over Lakanal House deaths

Southwark Council has been fined a total of £570,000 for safety failures at Lakanal House, the south London tower block in which three women and three children lost their lives in 2009. *Full story on next page.*



Lakanal House disaster - council fined

London fire brigade (LFB) brought the prosecution against Southwark council, which was landlord of the 14-storey block of flats at the time, after inspectors visited Lakanal House in the wake of the fire.

The most egregious shortcomings identified was a failure to conduct a fire-risk assessment, deficiencies in fire-resistant structures and materials between each maisonette staircase and shared internal doors, a lack of compartmentation in false ceiling structures of shared corridors and an absence of fitted intumescent strips and smoke seals on fire doors.

At Southwark crown court, Judge Jeffrey Pegden ordered Southwark council to pay a £270,000 fine plus £300,000 costs. The fine, which was potentially unlimited, was reduced from £400,000 after the council pleaded guilty to four offences under the Regulatory Reform (Fire) Safety Order.

In 2013, the inquest into the fire determined that the blaze had started when a television in a ninth-floor flat caught fire. The flames and smoke then spread rapidly throughout the block of 98 maisonettes, which were built in 1960.

999 mistaken advice

It also emerged that the people who died had been told by 999 operators to stay put, mistakenly believing that fire safety measures would prevent flames and smoke from reaching them. In passing sentence, Judge Pegden said: *"In this case there was a major fire at Lakanal House on 3 July 2009, involving the tragic loss of six lives – including three children. But the sentence of this court of course can never reflect such a terrible tragedy."*

"Indeed, the prosecution don't allege that these breaches were

causative of the fatalities in the fire, or indeed of the fire itself. This case is concerned with the risk existing prior to those events."

"Some have talked about the need for this case to act as a warning to others, but for us the death of six residents is a stark reminder every day of the terrible cost of failings at Lakanal." Southwark councillor Peter John

Dan Daly, LFB's assistant commissioner for fire safety, said: *"The fire at Lakanal House was a particularly harrowing incident and our thoughts remain with the families and loved ones of those who died. Bringing this prosecution against Southwark council has been about ensuring that lessons are learned."*

"All landlords, including large housing providers, such as councils and housing associations, have a clear responsibility under the law that their premises meet all fire safety requirements and are effectively maintained to provide protection in the event of a fire and keep their residents safe. We want them to take the opportunity provided by this court case to remind themselves of exactly what their fire safety responsibilities are under the law and to ensure that everyone in their premises is safe from the risk of fire."

Southwark councillor Peter John said: *"We fully accept the decision of the judge and the fine he has imposed. Some have talked about the need for this case to act as a warning to others, but for us the death of six residents is a stark reminder every day of the terrible cost of failings at Lakanal."*

"Once again I can only apologise for the council's role in this tragedy. We have since invested £62m to make our homes safer, and would urge all landlords to ensure their homes are safe so a tragedy like Lakanal is never repeated."

Intelligent and innovative

The new approach to fire safety in construction

All sectors face a range of unique challenges when it comes to maintaining fire safety.

For the construction industry, these are particularly difficult – construction sites are a dangerous mix of temporary structures, potentially hazardous machinery, heavy materials and working situations which, if improperly handled, could lead to a costly disaster. Even something as apparently innocuous as flying dust can be a flashpoint – one loose spark in a cloud of fine sawdust can cause a major explosion.

The risk for the construction industry is two-fold – a fire on an active build project can cost constructors millions, or even the loss of the entire project, but far more importantly, there is a high risk to workers lives. It's already a high-risk environment – almost 65,000 construction workers in the UK sustained an injury at work in 2014/15. A thorough and intelligent fire monitoring and prevention system is essential to ensure that number is continually brought down.

To increase the difficulty of this process,

site managers must ensure that a fire risk assessment has been carried out and a fire safety strategy put in place for both the contractors' village, made up of portakabin offices and facilities, and the building under construction. These measures must cover several important considerations. First of all, a temporary and dynamic means of sounding an alarm within the building under construction depending on contractors' location within the build, ideally through manual call point and sounder combinations which can be moved as required. Then, a more static and complex FDA system must be implemented for the village. On top of this, support including emergency lighting, extinguishers, evacuation assembly points, staff training and a fire warden programme must be put in place.

There are technological solutions to many of these problems. For example, radio-enabled fire safety devices, which can transmit alerts across a large site. Given the evolving nature

of a construction site, a connected capability is essential to increase the efficiency and accuracy of fire safety programmes, and such systems can be easily removed and re-installed multiple times. In sites which have the capacity to carry IP cables, it's also worth considering the benefit of intelligent connected fire detection and alarm systems which can collect and analyse data to better determine the true state of a fire incident, reject false and unwanted alarms and help site managers improve accuracy and overall safety without a large hike in outlay.

The minimisation of false and unwanted alarms is also a key issue to consider when it comes to fire safety. Construction companies have a responsibility to protect not only their own employees, but also the lives and interests of the communities around them, and it's essential to avoid any unnecessary risk or disruption to either group. Repeated false alarms could result in a genuine alert being missed. False alarms can also cause unneeded fire brigade callouts, which will only damage corporate reputations and relations with the local community, as well as putting victims of real fires at risk.

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Avoiding false alarms and conserving resources

Clearly, whatever the project, any site installed with a fire detection system must ensure it reduces false or unwanted alarms. Should a construction site be evacuated, crucial deadlines could be missed. If a project using costly hired plant experiences a false alarm, highly pressurised decisions will have to be made about whether to extend the rental period. Even worse, should a large number of false alarms occur, it could result in the unfortunate consequence of those onsite becoming complacent to the sound of an alarm and failing to respond to the warning of a real fire.

More broadly, false alarms are an incredible drain on public resources. According to the London Fire Brigade (LFB), around a third of all calls attended to are false alarms, leading to many fire brigades reviewing their policies – repeat offences increase the risk that the response to a genuine incident will be delayed. Some site managers could be unaware that the local fire brigade might not respond to an alarm activated by an automatic fire detector due to their policy of not answering false alarms.

Automatic alarms are hard to verify. As such, site management needs to ensure either that fire wardens are well-trained in correct reporting procedure, or that fire detection equipment is capable of discerning between, say, dust and smoke. Furthermore, since January 2014, the LFB charges companies if it has to attend more than ten false alarms in a 12-month period. This is to ensure fire-fighters are available to attend in a real emergency rather than held up at the scene of a false alarm.

Using modern technology for a better service

For construction companies looking to

improve safety and reduce false and unwanted alarms, it is clearly advisable to implement a well thought-out fire safety strategy that takes into account the necessary risk assessments across each of these possible triggers and situations. This is crucial in order to identify and wherever possible eliminate the potential scenarios in which false and unwanted alarms could occur.

If an existing system has been prone to false alarms, it is advisable to look at incorporating intelligent fire alarm detection devices. By using interactively-adjusted algorithms these can establish if the detected properties of carbon monoxide, heat, smoke or particles correspond to those held in memory for real fire events. By utilising this type of detection technology, dust from an angle-grinder will not trigger an alarm, for instance.

It can also be incredibly beneficial to have a wireless radio-enabled system in place to ensure that detectors across the site are integrated, to aid the early detection and verification of fires. Once a fire detection and alarm system is in place, although it might sound very basic, site teams must ensure that absolutely all staff tasked with using the fire controls are trained to do so – a mis-chosen fire extinguisher or ill-advised escape route could mean the difference between life and death.

Always on and always alert

With an appropriate fire detection and alarm system installed, there must be a programme of planned, preventative maintenance in place to support it. In England and Wales this is a legal requirement under Article 17 of the Fire Safety Order (FSO), and its equivalent in Scotland and Northern Ireland. The advisory engineering best practices as to how maintenance should be carried out can be found in British Standard, BS 5839-1:2013.

Site managers should ensure that their fire detection and alarm system is maintained by a competent servicing organisation. Where the construction period is too short to merit a regular testing programme, those responsible for installation of battery-operated temporary units should nevertheless ensure the compliance of their devices at the point of installation.

The number of maintenance visits required is determined by the fire risk assessment and should take into account the level of risk (to life, property and construction continuity), complexity and size of the system. Such maintenance visits will allow the servicing engineer to work with the site team to identify any persistent causes of false alarms. All construction sites must be protected by a well-designed, installed and regularly maintained fire detection and alarm system.

Throughout this process, reducing false and unwanted alarms has to be high on the agenda as not only will this help to ensure the highest levels of safety, but it will help to reduce the amount of resources teams have to dedicate in order to manage the time-consuming and potentially costly repercussions.

Technology is the key to a resilient and compliant fire detection and suppression system. With innovative connected devices and detectors, site managers can automate many of the most crucial parts of the fire alarm system, increasing accuracy and helping save lives. These risks are not going to go away: the construction industry must ensure its fire prevention systems are fully functional and up to the challenge.

For more information, go to tycoifs.co.uk

General fire safety on construction sites

What you need to do

The Regulatory Reform (Fire Safety) Order 2005 (FSO) sets out the law on construction site general fire safety.

The FSO requires that a 'responsible person' must carry out, and keep up to date, a risk assessment and implement appropriate measures to minimise the risk to life and property from fire.

The responsible person will usually be the main or principal contractor in control of the site.

You should identify sources of fuel and ignition and establish general fire precautions including, means of escape, warning and fighting fire, based on your fire risk assessment.

In occupied buildings such as offices, make sure the work does not interfere with existing escape routes from the building, or any fire separation, alarms, dry risers, or sprinkler systems.

Key issues are:

- Risk assessment
- Means of escape
- Means of giving warning
- Means of fighting fire

Construction of timber frame buildings will require significant additional measures – please refer to the specific guidance listed.

What you need to know

Each year there are a number of serious fires on construction sites and buildings undergoing refurbishment.

Risk assessment

In most cases, conducting a risk assessment will be a relatively straightforward and simple task that may be carried out by the responsible person, or a person they nominate, such as a consultant.

There are five steps in carrying out a fire risk assessment:

- 1. Identify hazards:** consider how a fire could start and what could burn;
- 2. People at risk:** employees, contractors, visitors and anyone who is vulnerable, eg disabled;
- 3. Evaluation and action:** consider the hazards and people identified in 1 and 2 and act to remove and reduce risk to protect people and premises;
- 4. Record, plan and train:** keep a record of the risks and action taken. Make a clear plan for fire safety and ensure that people understand what they need to do in the event of a fire; and
- 5. Review:** your assessment regularly and check it takes account of any changes on site.

Means of escape

Key aspects to providing safe means of escape on construction sites include:

- **Routes:** your risk assessment should determine the escape routes required, which must be kept available and unobstructed;
- **Alternatives:** well-separated alternative ways to ground level should be provided where possible;
- **Protection:** routes can be protected by installing permanent fire separation and fire doors as soon as possible;
- **Assembly:** make sure escape routes give access to a safe place where people can assemble and be accounted for. On a small site the pavement outside may be adequate; and
- **Signs:** will be needed if people are not familiar with the escape routes. Lighting should be provided for enclosed escape routes and emergency lighting may be required.

Means of giving warning

Set up a system to alert people on site.

This may be temporary or permanent mains operated fire alarm (tested regularly), a klaxon, an air horn or a whistle, depending on the size and complexity of the site.

The warning needs to be distinctive, audible above other noise and recognisable by everyone.

Means of fighting fire

Fire extinguishers should be located at identified fire points around the site.

The extinguishers should be appropriate to the nature of the potential fire:

- wood, paper and cloth – water extinguisher;
- flammable liquids – dry powder or foam extinguisher;
- electrical – carbon dioxide (CO₂) extinguisher.

Nominated people should be trained in how to use extinguishers.

For more information contact the HSE at hse.gov.uk

Recent sprinkler actuations saves lives and property

Recent research in the UK, which is expected to be published soon, has shown that on average the fire service attends over one fire each day in a sprinklered building. That is just in the UK. Here is a selection of recent fires, for which we have more than the minimum details.

31 March. At 01:23 Staffordshire Fire & Rescue Service was called to a house fire in Medway, Tamworth. The fire was caused by a discarded cigarette in the lounge, which ignited some paper and a plastic Tupperware container. The occupants consisted of an elderly couple and their disabled grandson who was 25 years old and bedbound. In 2014, a tank-fed sprinkler system had been retrofitted by Staffordshire Fire and Rescue Service after collaborative work with stakeholders. A single sidewall sprinkler head activated and extinguished the fire.

28 March. UK Sprinklers, a sprinkler installer, has reported a recent sprinkler save in a retirement flat in Harrogate. The fire started in a store cupboard when a lithium battery on a bicycle overheated (it wasn't being charged it just overheated). The sprinkler in the cupboard activated and suppressed the fire. No one was affected by the fire.

22 March. Tyne & Wear Fire & Rescue Service was called at 10:00 to a fire in a manufacturing plant in Birtley. The fire was caused by a motor overheating in a shot blasting booth. The sprinkler system suppressed the fire and confined it to the 20m x 20m shot blasting area. The fire was extinguished by four fire-fighters wearing breathing apparatus, using two hose reels. Assistant Chief Officer John Baines said, "There is no doubt that having an automatic sprinkler system in this building stopped the fire from spreading and prevented potentially severe damage to the rest of the property and the business itself." A spokesperson for the business said, "The sprinklers have saved us a fortune. I would like to thank the Tyne and Wear Fire and Rescue teams for the outstanding work they did."

16 March. A sprinkler system prevented a serious fire at an industrial recycling warehouse in Kensal Green. Around 15 workers evacuated the building before London Fire Brigade attended, after being called 23:02. An industrial shredder containing construction waste was completely gutted in the blaze. The fire was under control by 02:06. Watch manager Dan Green said, "The sprinkler system undoubtedly helped contain the



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fire from spreading further. Fire-fighters also worked extremely hard to create a water relay from a nearby canal which meant we were able to limit damage and bring this under control quicker.”

16 March. At 05:53 Staffordshire Fire & Rescue Service was called to a flat fire at the Oak Priory, Extracare village. The building of 175 flats over 3 storeys was completed two years ago and has a watermist system. The fire was in the lounge in a second floor, single occupancy flat. The occupier was led to safety thanks to the alarm system and the quick actions of the staff. A single head of the misting system activated shortly after the occupant had left, containing the fire to an armchair. There was little smoke damage to the lounge and the rest of the flat was left relatively unaffected. Fire crews reported the fire was extinguished and naturally ventilated the flat. The cause of the fire was accidental.

16 March. At 01:36 Dorset & Wiltshire Fire and Rescue Service received a call to a commercial unit storing plastics, in Chippenham. A fire had occurred in a first floor mezzanine level of a building measuring 50x100 metres. Attending crews found that the fire involved a cage of portable scanners awaiting recycling. One sprinkler head activated which extinguished most of the fire. Fire damage was limited to one storage stillage of 1.2x 1.2metres. Cause of fire is believed to be defective batteries within one of the portable scanners. The building was able to return to normal operations the following day.

For more information please visit: eurosprinkler.org



Fire & Security Consultancy Limited

How are we doing?

Here at Fire & Security Consultancy Limited we want to hear your thoughts, ideas, opinions - good or bad - so that we may continue to improve our services to you. Please contact us on **01634 260702** or via email at info@fireconsultancy.com

If there are issues that concern you, new guidelines or rules that you don't quite understand, we are here to help. Our consultant **Simon Oakley** is happy to look into any specific field of work on your behalf, and quite often his results and findings are shared with colleagues through this newsletter.

If you need us to quote on new works for you the contact details are the same. And don't forget we also undertake **Fire Stopping** works along with many other fire and security services - check our website for full details fireconsultancy.com

So, you know where we are when you need us!

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